Development Services
Planning Division
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Water Efficient Landscape Worksheet

This worksheet is filled out by the project applicant and it is a required element of the Landscape Documentation Package.

HYDROZONE INFORMATION TABLE
Please complete the hydrozone table(s) for each hydrozone. Use as many tables as necessary to provide the square footage of landscape area per hydrozone.

Controller #	Hydrozone*	Zone or Valve	Irrigation Method**	Plant Type/Factor*** (PF)	Hydrozone Area (Sq. Ft.)	% of Total Landscaped Area
		Total				**100%**

** Hydrozone*
VLW - Very Low Water Use Plants
LW - Low Water Use Plants
MW - Moderate Water Use Plants
HW - High Water Use Plants

***Irrigation Method*
MS = Micro-spray
S = Spray
R = Rotor
B= Bubbler
D= Drip
O = Other

****Plant Factor from WUCOLS III or list as water feature as appropriate*

Maximum Applied Water Allowance

A landscape project subject to the Water Efficient Landscape Ordinance shall include the MAWA for the plans, including the calculations used to determine the MAWA. A landscape project shall not exceed the MAWA. The MAWA for a landscape project shall be determined by the following equation:

$$\mathbf{MAWA = (ETo)(0.62)[(0.7 \times LA) + (0.3 \times SLA)]}$$

The abbreviations used in the equation have the following meanings:

MAWA	Maximum Applied Water Allowance in gallons per year.
ETo	Evapotranspiration in inches per year.
0.62	Conversion factor to gallons per square foot.
0.7	ET adjustment factor (ETAF) for plant factors and irrigation efficiency.
LA	Landscaped area includes special landscaped area in square feet.
0.3	The additional ET adjustment factor for a special landscaped area (1.0 - 0.7 = 0.3)
SLA	Special landscaped area in square feet.

Show Calculation:

Maximum Applied Water Allowance = _____ gallons per year

Estimated Total Water Use

A landscape project subject to the Water Efficient Landscape Ordinance shall include the ETWU for the plans, including the calculations used to determine the ETWU. The ETWU for a proposed project shall not exceed the MAWA. The following equation shall be used to calculate the ETWU for each landscaped area and the entire project:

$$ETWU = (ETo)(0.62)\left(\frac{PF\ x\ HA}{IE} + SLA\right)$$

The abbreviations used in the equation have the following meanings:

ETWU	Estimated total water use in gallons per year.
ETo	Evapotranspiration in inches per year.
0.62	Conversion factor to gallons per square foot.
PF	Plant factor from WUCOLS III
HA	Hydrozone Area in square feet. Each HA shall be classified based upon the data included in the landscape and irrigation plan as high, moderate, low, or very low water use.
IE	Irrigation Efficiency of the irrigation method used in the hydrozone.
SLA	Special landscaped area in square feet.

Hydrozone Table for Calculating ETWU
Please complete the hydrozone table(s). Use as many tables as necessary.

CITY OF CARLSBAD ESTIMATED TOTAL WATER USE (ETWU)							
		Hydrozone Number (1 – 5 with SLA Zone Below – use as many tables as necessary to complete all hydrozones)					
	Process Step No. (Below)	1	2	3	4	5	SLA
Evapotranspiration Rate (ETo)*	1						
Conversion Factor	2	0.62					
(Step 1 x Step 2)	3						
Plant Factor (PF)** (From WUCOLS) (VLW – HW) (0.1 - 0.8)	4						
Area of Hydrozone (sq. ft.) (HA)	5						
(Step 4 x Step 5)	6						
Irrigation Efficiency (IE)***	7						
(Step 6 ÷ Step 7)	8						
(Total All Step 8 + Total SLA sq. ft. in Step 5)	9						
(Step 3 x Step 9) Estimated Total Water Use in gallons per year (ETWU) - Total shall not exceed MAWA	10						

*ETo**
West of I-5 = 40.0
East of I-5 and West of El Camino Real = 44.0
East of El Camino Real = 47.0
Applicant may provide a different ETo if supported by documentation subject to approval by the City Planning Division

*** Plant Factor & Water Use*
0.1 = VLW - Very Low Water Use Plants
0.3 = LW - Low Water Use Plants
0.5 = MW - Moderate Water Use Plants
0.8 = HW - High Water Use Plants

****IE*
Micro-spray = .80
Spray = .55
Rotor = .70
Bubbler = .75
Drip = .80
Applicant may provide a different IE if supported by documentation subject to approval by the City Planning Division (Turf and Landscape Irrigation Best Management Practices, April 2005)